

ACE USER

NEWSLETTER OF THE JUPITER ACE USERS CLUB

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Welcome to the Jupiter Ace Users Club! The Club has been formed to provide a forum for members to exchange information on the Ace. Also to produce, and market at reasonable prices, software in cassette-based format. In addition, the interfacing capabilities of the Ace need exploring, with the possibility of kits being made available cheaply to members.

The Jupiter Ace Users Club is independent of Jupiter Cantab, the creators of the Ace, but we hope for a friendly and informative relationship with them.

SOFTWARE

Later in this first newsletter are details of two cassette tapes. Tape 1 contains *Peeker* which will enable you to unravel ROM and RAM in the unexpanded Ace. Doug has put in a lot of work devising this program, so we hope you find it useful!

Tape 2 contains three Forth programs, again for the unexpanded Ace, together with a demo program. *Night Rider* is a simple game that gives some idea of the Ace's games potential in its present black and white unexpanded format. *Sketch* is a very useful screen layout aid. *Editor* is a valuable text editor. There is a demo program to give you an idea of these programs. Both *Sketch* and *Editor* can be dissected and used in your own programs.

A word about prices. We don't think that software should cost the earth, so these two initial tapes are priced at £3.50 and £4.50 respectively. These prices include postage and packing. We would like to provide other multi-program tapes for Club members, so send your programs in. Royalties will be paid.

HARDWARE

Overleaf are some comments on add-on possibilities; also some technical notes from Doug on memory.

SUBSCRIBE!

I'll sign off by saying, please subscribe. The annual subn is £7. There will be 3 newsletters a year. Software at low cost, and add-ons in kit form at low cost. Please send your news, contributions, queries in. Only by sharing knowledge can we all use our new computer to its fullest.

John Noyce,
Newsletter editor, & marketing

HOW MUCH USABLE MEMORY DOES THE UNEXPANDED ACE PROVIDE?

Roughly 880 bytes of DICTIONARY space to contain your program, as well as the data stack and Z80 machine stack. When you edit a word this is stored in the DICTIONARY with the old word prior to redefine old word. It follows that more usable memory will be available if you define several short words rather than fewer long words.

The PAD can hold 254 user bytes, but is cleared by word load save.

736 bytes of screen can be bloaded and bsaved apart from your program and is available for datastorage if you don't need a screen display.

There are, apparently, 24 additional programmable characters available, as well as the standard keyboard set.

If you are not using floating point arithmetic address 15360 has a spare 19 bytes which could be used for data or machine code.

So, just under 2K of usable memory if you don't count redefined keyboard characters, plus the odd spare bytes here and there in RAM.

Here is a word to test for spare DICTIONARY space. It fills the data stack with 1 s and stops with report ERROR 1. The variable X keeps a byte count of this operation.

```
Ø variable x
: fill
Ø x !
begin
x @ 1+ x !
257 Ø
until
;
```

Key-in fill/ response ERROR 1, then x @ 2 * 55 + . , don't forget the full stop.

BIG CHARACTERS

The character set in RAM cannot be read from, but the character set in ROM can. For those who want big screen characters;

```
SPACE (ASCII 32) starts at 1D7A (7547)
© (ASCII 127) ends at 1FFB (8187)
```

Doug Bollen

JUPITER ACE MEMORY MAP

ADDRESSES

Hex Dec

0000	0	8K	ROM
1FFF	8191		
2000	8192	768	↳ Beginning of screen line 0 VIDEO RAM (immediate)
22FF	8959		↑ INPUT BUFFER End screen line 23 ↓
2300	8960	1	Contains boundary 0
2301	8961	1	Used for PAD string length
2302	8962		
23FF	9215	254	PAD (immediate) Text workspace and <u>load/save</u> names.
2400	9216	768	↳ Beginning of screen line 0 VIDEO RAM (wait for screen)
26FF	9983		↑ INPUT BUFFER End screen line 23 ↓
2700	9984	1	Contains boundary 0
2701	9985	1	Used for PAD string length
2702	9986		
27FF	10239	254	PAD (wait for screen) Text workspace and <u>load/save</u> names.
2800	10240		
2BFF	11263	1K	CHARACTER SET (immediate)
2C00	11264		
2FFF	12287	1K	CHARACTER SET (wait for screen)
3000	12288		
3BFF	15359	3K	Triple copy of 3C00 - 3FFF
3C00	15360		
3C3F	15423	64	SYSTEM VARIABLES
3C40	15424		
3FFF	16383	960	DICTIONARY plus DATA STACK ↓
4000	16384		↑ Z80 STACK (unexpanded RAM)
			RAMTOP (unexpanded RAM)

RAM EXPANSION

EXPANSION LIMIT

↑ Z80 STACK (return stack)
RAMTOP

Note: VIDEO, PAD and CHARACTER SET have double addresses.

EXPANSION

MEMORY EXPANSION

Doug is looking into the 16K memory expansion, and is designing an adaptor for use with ZX81 add-ons. We hope to put this out in kit form, early next year.

IN/OUT PORT

We hope to provide software for use with the in/out port as detailed in the Ace Users handbook.

INTERFACE ZX PRINTER

No time as yet.

For all these expansion possibilities, if you're working on one of these, do get in touch.

CONTRIBUTE TO THE NEWSLETTER

To reiterate, we need your letters, articles, news, and programs.

If you have something in mind do phone me - 0273-602354

John Noyce

Ps. Ian Logan, author of Understanding your ZX81/Spectrum, et al, has apparently obtained a listing of the Rom by cross-loading from the Jupiter to the Spectrum. The cassette standards are apparently identical. Any more comparisons between the two machines???